

AMENDMENTS TO THE CLAIMS

Listing of the Claims

1. (Currently Amended) A liquid crystal display device driving method for driving a liquid crystal display device by supplying image data to be written ~~into to each pixel~~ pixels of the liquid crystal display device ~~to the liquid crystal display device a plurality of times in one vertical synchronization interval,~~ comprising the step of:

~~—obtaining an the whole image data value supplied the plurality of times in one vertical synchronization interval~~ on the basis of a data value of an image signal in a previous vertical synchronization interval and a data value of an image signal in a current vertical synchronization interval; and

supplying the obtained image data value to at least one pixel at least one of a selected plural number of times within one vertical synchronization interval, wherein the number of times is selected to improve step response characteristics of the liquid crystal display device.

2. (Currently Amended) A liquid crystal display device driving method for driving a liquid crystal display device by supplying image data to be written into ~~each a pixel~~ of the liquid crystal display device ~~to the liquid crystal display device a plurality of times in one vertical synchronization interval,~~ comprising the step of:

~~—obtaining an image data value to be supplied at least at a first one time out of the image data supplied of the plurality~~ a selected plural number -of times in within one vertical synchronization interval, wherein the number of times is selected to improve step response characteristics of the liquid crystal display device-, the image data value being obtained on the basis of a data value of an image signal in a previous vertical synchronization interval and a data value of an image signal in a current vertical synchronization interval.

3. (Cancelled)

4. (Currently Amended) A liquid crystal display device driving method as claimed in claim 2, wherein

image data of a data value different from the obtained image data at least one piece of image data out of the image data supplied at second and subsequent times out of the image data supplied the plurality of times in one vertical synchronization interval, to be supplied to at least one other of the selected plural number of times within one vertical synchronization interval, is provided by~~includes~~ image data ~~that has~~of a ~~specified value intermediate~~ between the data value of the image signal in the previous vertical synchronization interval and the data value of the image signal in the current vertical synchronization interval.

5. (Currently Amended) A liquid crystal display device driving method as claimed in claim 1, wherein when the data value of the image signal in the ~~previous~~current vertical synchronization interval is larger than the data value of the image signal in the ~~current~~previous vertical synchronization interval, image data that has a value larger than the data value of the image signal in the current vertical synchronization interval is supplied in at least one of the selected number of intervals.

6. (Currently Amended) A liquid crystal display device driving method as claimed in claim 2, wherein when the data value of the image signal in the ~~previous~~current vertical synchronization interval is larger than the data value of the image signal in the ~~current~~previous vertical synchronization interval, image data that has a value larger than the data value of the image signal in the current vertical synchronization interval is supplied ~~at the~~ at least one~~first~~ of the selected plural number of times within one vertical synchronization interval~~time.~~

7. (Previously Presented) A liquid crystal display device driving method as claimed in claim 2, wherein the image data is supplied to the liquid crystal device three times or more in one vertical synchronization interval.

8. (Currently Amended) A liquid crystal display device driving method as claimed in claim 2, wherein at least one piece of image data out of the image data supplied ~~in the plurality~~ selected plural number of times in one vertical synchronization interval has a value smaller than the data value of the image signal in the current vertical synchronization interval.

9. (Currently Amended) A liquid crystal display device driving method as claimed in claim 8~~1~~, wherein last one piece of image data out of the image data supplied ~~therein one of the plurality~~ selected plural number of times ~~in one~~ vertical synchronization interval has a value smaller than the data value of the image signal in the current vertical synchronization interval.

10. (Previously Presented) A liquid crystal display device driving method as claimed in claim 1, wherein a transmittance of the each pixel, once in the current vertical synchronization interval, becomes larger than a transmittance corresponding to the data value of the image signal in the current vertical synchronization interval.

11. (Previously Presented) A liquid crystal display device driving method as claimed in claim 2, wherein a transmittance of the each pixel, once in the current vertical synchronization interval, becomes larger than a transmittance corresponding to the data value of the image signal in the current vertical synchronization interval.

12. (Currently Amended) A liquid crystal display device driven by the driving method as claimed in claim ~~1~~20, further comprising a memory that

stores data values of image signals in 2 or more vertical synchronization intervals.

13.-15. (Cancelled)

16. (Previously Presented) A liquid crystal display device driven by the driving method as claimed in claim 2, further comprising a memory that stores data values of image signals in 2 or more vertical synchronization intervals.

17.-19. (Cancelled)

20. (New) A liquid crystal display device driven by the driving method as claimed in claim 2, wherein image data of a data value different from the obtained image data value is supplied at least one other of the selected plural number of times in one vertical synchronization interval.

21. (New) A liquid crystal display device driven by the driving method as claimed in claim 1, wherein the selected plural number of times is two times.

22. (New) A liquid crystal display device driven by the driving method as claimed in claim 1, wherein the selected plural number of times is three times.

23. (New) A liquid crystal display device driven by the driving method as claimed in claim 1, wherein the driving method is for driving at least one picture electrode of at least one corresponding pixel of a liquid crystal display device by supplying image data to be written to picture electrodes of pixels of the liquid crystal display device.

24. (New) A method for driving at least one pixel of a liquid crystal display device, comprising:

determining a data value of an image signal from a data value of the image signal in a previous vertical synchronization interval and a data value of the image signal in a current vertical synchronization interval; and

supplying the determined data value of the image signal to the at least one pixel of the liquid crystal display device at least one of a selected plural number of times in one vertical synchronization interval, wherein the number of times is selected to improve step response characteristics of the liquid crystal display device.

25. (New) The driving method as claimed in claim 24, wherein the driving method is for driving at least one picture electrode of at least one corresponding pixel of a liquid crystal display device by supplying image data to be written to picture electrodes of pixels of the liquid crystal display device.

26. (New) A liquid crystal display device driven by the driving method as claimed in claim 24, wherein a data value different from the determined data value is supplied to the at least one picture electrode in at least one other of the selected plural number of times in one vertical synchronization interval.

27. (New) A liquid crystal display device driven by the driving method as claimed in claim 24, wherein a data value the same as the determined data value is supplied to the at least one picture electrode in at least one other of the selected plural number of times in one vertical synchronization interval.

28. (New) A liquid crystal display device driving method as claimed in claim 2, wherein the image data of a data value different from the obtained image data includes image data of a value equal to the data value of the image signal in the current vertical synchronization interval.

29. (New) A liquid crystal display device driving method as claimed in claim 2, wherein the image data of a data value different from the obtained image data includes image data of a value less than the data value of the image signal in the current vertical synchronization interval.

30. (New) A liquid crystal display device driving method as claimed in claim 2, wherein image data of a data value of the obtained image data is supplied at least two of the selected plural number of times in one vertical synchronization interval.

31. (New) A liquid crystal display device driving method as claimed in claim 25, wherein the image data of a data value different from the obtained image data includes image data of a value less than the data value of the image signal in the current vertical synchronization interval.

32. (New) A liquid crystal display device driving method as claimed in claim 25, wherein image data of a data value of the obtained image data is supplied at least two of the selected plural number of times in one vertical synchronization interval.

33. (New) A liquid crystal display device driving method as claimed in claim 20, wherein the data value different from the determined data value includes image data of a value between the data value of the image signal in the previous vertical synchronization interval and the data value of the image signal in the current vertical synchronization interval.

34. (New) A liquid crystal display device driving method as claimed in claim 20, wherein the data value different from the determined data value includes image data of a value equal to the data value of the image signal in the current vertical synchronization interval.

35. (New) A liquid crystal display device driving method as claimed in claim 20, wherein the data value different from the determined data value includes image data of a value less than the data value of the image signal in the current vertical synchronization interval.

36. (New) A liquid crystal display device driving method as claimed in claim 20, wherein image data of the determined data value is supplied at least two of the selected plural number of times in one vertical synchronization interval.

37. (New) A liquid crystal display device driving method as claimed in claim 36, wherein the data value different from the determined data value includes image data of a value less than the data value of the image signal in the current vertical synchronization interval.

38. (New) A liquid crystal display device driving method as claimed in claim 34, wherein image data of the determined data value is supplied at least two of the selected plural number of times in one vertical synchronization interval.

39. (New) An apparatus for driving at least one corresponding pixel of a liquid crystal display device, comprising:

means for determining a data value of an image signal from a data value of the image signal in a previous vertical synchronization interval and a data value of the image signal in a current vertical synchronization interval; and

means for supplying the determined data value of the image signal to the at least one pixel of the liquid crystal display device at least one of a selected plural number of times in one vertical synchronization interval, wherein the number of times is selected to improve step response characteristics of the liquid crystal display device.

40. An apparatus as claimed in claim 39, wherein the means for supplying is for supplying at least one picture electrode of at least one corresponding pixel of a liquid crystal display device with image data.

41. (New) An apparatus as claimed in claim 39, wherein a data value different from the determined data value is supplied at least one other of the selected plural number of times.

42. (New) An apparatus as claimed in claim 41, wherein the data value different from the determined data value includes image data of a value between the data value of the image signal in the previous vertical synchronization interval and the data value of the image signal in the current vertical synchronization interval.

43. (New) An apparatus as claimed in claim 41, wherein the data value different from the determined data value includes image data of a value equal to the data value of the image signal in the current vertical synchronization interval.

44. (New) An apparatus as claimed in claim 41, wherein the data value different from the determined data value includes image data of a value less than the data value of the image signal in the current vertical synchronization interval.

45. (New) An apparatus as claimed in claim 41, wherein image data of the determined data value is supplied at least two of the selected plural number of times in one vertical synchronization interval.

46. (New) An apparatus as claimed in claim 45, wherein the data value different from the determined data value includes image data of a value less

than the data value of the image signal in the current vertical synchronization interval.

47. (New) An apparatus as claimed in claim 43, wherein image data of the determined data value is supplied at least two of the selected plural number of times in one vertical synchronization interval.

48. (New) An apparatus as claimed in claim 39, further comprising:

means for storing the data value of the image signal in a previous vertical synchronization interval and the data value of the image signal in a current vertical synchronization interval.

49. (New) An apparatus for driving at least one pixel of a liquid crystal display device, comprising:

means for storing a data value of an image signal in a previous vertical synchronization interval and a data value of the image signal in a current vertical synchronization interval; and

means for supplying a data value of the image signal to the at least one picture electrode of at least one pixel of the liquid crystal display device in each of a selected plural number of intervals in one vertical synchronization interval, wherein a data value of the image signal determined from a data value of the image signal in a previous vertical synchronization interval and a data value of the image signal in a current vertical synchronization interval is supplied in each of the selected plural number of intervals, and wherein the number of times is selected to improve step response characteristics of the liquid crystal display device.

50. (New) An apparatus as claimed in claim 49, wherein the means for supplying is for supplying at least one picture electrode of at least one corresponding pixel of a liquid crystal display device with image data.

51. (New) An apparatus as claimed in claim 49, wherein the means for supplying supplies a data value different from the determined data value in at least one other of the selected plural number of times.

52. (New) An apparatus as claimed in claim 51, wherein the data value different from the determined data value includes image data of a value between the data value of the image signal in the previous vertical synchronization interval and the data value of the image signal in the current vertical synchronization interval.

53. (New) An apparatus as claimed in claim 51, wherein the data value different from the determined data value includes image data of a value equal to the data value of the image signal in the current vertical synchronization interval.

54. (New) An apparatus as claimed in claim 51, wherein the data value different from the determined data value includes image data of a value less than the data value of the image signal in the current vertical synchronization interval.

55. (New) An apparatus as claimed in claim 51, wherein image data of the determined data value is supplied at least two of the selected plural number of times in one vertical synchronization interval.

56. (New) An apparatus as claimed in claim 55, wherein the data value different from the determined data value includes image data of a value less than the data value of the image signal in the current vertical synchronization interval.

57. (New) An apparatus as claimed in claim 53, wherein image data of the determined data value is supplied at least two of the selected plural number of times in one vertical synchronization interval.

58. (New) A method for driving at least one pixel of a liquid crystal display device, comprising:

storing a data value of the image signal in a previous vertical synchronization interval and a data value of the image signal in a current vertical synchronization interval; and

supplying a data value of the image signal to at least one pixel of the liquid crystal display device in each of a selected plural number of intervals in one vertical synchronization interval, wherein a data value of the image signal determined from a data value of the image signal in a previous vertical synchronization interval and a data value of the image signal in a current vertical synchronization interval is supplied to the at least one pixel of the liquid crystal display device at least one of the selected plural number of times, and wherein the number of times is selected to improve step response characteristics of the liquid crystal display device.

59. (New) The driving method as claimed in claim 58, wherein the driving method is for driving at least one picture electrode of at least one corresponding pixel of a liquid crystal display device by supplying image data to be written to picture electrodes of pixels of the liquid crystal display device.

60. (New) The driving method as claimed in claim 58, wherein a data value different from the determined data value is supplied at least one other of the selected plural number of times.

61. (New) The driving method as claimed in claim 60, wherein the data value different from the determined data value includes image data of a value between the data value of the image signal in the previous vertical

synchronization interval and the data value of the image signal in the current vertical synchronization interval.

62. (New) The driving method as claimed in claim 60, wherein the data value different from the determined data value includes image data of a value equal to the data value of the image signal in the current vertical synchronization interval.

63. (New) The driving method as claimed in claim 60, wherein the data value different from the determined data value includes image data of a value less than the data value of the image signal in the current vertical synchronization interval.

64. (New) The driving method as claimed in claim 60, wherein image data of the determined data value is supplied at least two of the selected plural number of times in one vertical synchronization interval.

65. (New) The driving method as claimed in claim 64, wherein the data value different from the determined data value includes image data of a value less than the data value of the image signal in the current vertical synchronization interval.

66. (New) The driving method as claimed in claim 62, wherein image data of the determined data value is supplied at least two of the selected plural number of times in one vertical synchronization interval.